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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,357	10/22/2003	Richard Shaun Welches	YOU21B-US	4960

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EXAMINER	
CAVALLARI, DANIEL J	

ART UNIT	PAPER NUMBER
2836	

DATE MAILED: 02/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/691,357	WELCHES ET AL.	
	Examiner	Art Unit	
	Daniel J. Cavallari	2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10/22/2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 2/4/04, 12/22/04, 3/11/05
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

The information disclosure statements (IDS) submitted on 2/4/2004, 12/22/2004, & 3/11/2005 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

Claim Objections

The numbering of claims is not in accordance with 37 CFR 1.126

Claim number "14" is used twice in the claims although different claim limitations are presented in each. It appears the applicant misnumbered the claims and the second occurring claim number 14 will be renumbered as new claim 15. Originally numbered claim 15 will be renumbered as new claim 16 and originally numbered claim 16 will be renumbered as 17. Therefore, the total number of claims in the application is 17.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4, 13, 14, & 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In regard to Claims 4 & 16

The term "enhanced conduction angle" is unclear as it is unclear to what constitutes a "conduction angle". The examiner acknowledges that the specification discloses the term but it fails to give an adequate explanation and merely cites "The AC line power is fed to the power converter enhanced conduction angle ECA (300).. where it is power factor corrected, rectified and the voltage is boosted to a regulated DC voltage ..." (See Paragraph 42). The claim will be examined as best understood in which "enhanced conduction angle" is taken to mean, "power factor corrected".

It is further unclear what is meant by the term "dual boost". The examiner notes that the specification does recite "dual boost" (See Paragraphs 24, 52, 54, 59, 87, & 92) but the applicant fails to define or describe what physically constitutes a "dual boost" regulator. The claim will be examined as best understood to mean "boost".

In regard to Claims 13 & 14

It is unclear what is meant by "feeding" the hybrid uninterruptible power supply. Furthermore, claim 12 recited the "energy storage module" as part of the "hybrid uninterruptible power supply" while claim 13 recites "..feeding the hybrid uninterruptible power supply with said storage module" therefore the device as claimed would be "feeding" itself.

Because of the 112 problems with these claims, no art can be applied.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3, 5-12, 15, & 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koenig (US 6,737,762) & Van Sickle et al. (US 5,811,960).

Koenig teaches:

In regard to Claims 1 & 12

- A variable speed generating device (104) producing differing amounts of power at different speeds (See Column 3, Lines 25-46 & Column 4, Lines 36-51 & Figure 2).
- A hybrid UPS power supply read on by components (106, 118, 108, & 116) (See Figure 3) coupled between an AC line (300) and a load (102) via energy supply circuit (120) and line (122) (See Figure 3) wherein said hybrid UPS is comprised of a regulator section (106 & 118) coupled to an inverter (108) and an energy storage module (116) coupled there between (See Figure 3).

Koenig fails to teach wherein the UPS is switchably coupled to the generating device (104). Van Sickel et al. (hereinafter referred to as Van Sickle) teach an uninterruptible

power supply system in which a generator (244) is connected to an uninterruptible power supply, read on by the synchronous A.C machine & Flywheel (262), Rectifiers (150, 252) and inverter (152) in which the UPS is switchably coupled with an energy generating device, read on by the generator (28) (See Figure 1 & Column 5, Lines 40-71).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a switch, as taught by Van Sickle, into the power supply system of Koenig in which to isolate the generator (104) of Koenig from the rest of the circuit. The motivation would have been to provide a means to isolate the generator in the event that maintenance or a fault was present in the system.

Koenig further teaches:

In regard to Claim 2

- The inverter (108) (See Figure 3) consisting of a DC to AC inverter (See Column 3, Lines 25-46).

In regard to Claim 3

- The variable speed generator consisting of a sterling engine (See Column 3, Lines 25-46).

In regard to Claim 5

- A switch (414) between the inverter (108) and the load (400A) (See Figure 4)

In regard to Claim 6

- A switch (302) coupling the UPS to the AC line (See Figure 4)

In regard to Claim 7

- The energy storage module (116) consisting of a battery (See Figure 4 & Column 3, Lines 47-67)

In regard to Claim 8 & 9

- A bypass switch (302) coupling said AC line (300) with the load (400B) (See Figure 4)
- The switch being a bi-directional thyristor (See Column 4, Lines 52-66)

In regard to Claims 10 & 11

- A bypass switch (416) coupling said generator (104) with the load (400B) via the components (106, 108. & 414) (See Figure 4)
- The switch being a bi-directional thyristor (See Column 4, Lines 52-66)

In regard to Claim 15

- Charging the energy storage module (116) while simultaneously providing output power to the load (See Column 4, Lines 17-35).

In regard to Claim 16

- Correcting for surge (See Column 4, Lines 17-35).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koenig, Van Sickle et al., & Symonds (5,610,451)

Incorporating all arguments of the power supply system taught by Koenig, Koenig teaches the use of a regulator read on by components (106 & 118) but fails to teach a power factor correction, boost DC bus voltage regulator.

Symonds teaches an uninterruptible power supply comprising a power factor correcting, DC boost voltage regulator read on by components (12, 20 & 28) (See Abstract, Figure 1 & Column 3, Line 61 to Column 4, Line 49). Symonds teaches a rectifier (20) receiving an AC input which is converted to a DC voltage winch is then boosted by the boost converter (22) and power factor corrected by controller (40) (See Figure 2) which controls the boost converter (22).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the regulator taught by Symonds in place of the regulator (106) taught by Koenig. The motivation would have been to provide a means to adequately control the voltage which is outputted to the DC bus and reduce power loss by controlling the power factor.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koenig, Van Sickle et al., & Symonds.

Koenig teaches:

- A variable speed generating device (104) producing differing amounts of power at different speeds (See Column 3, Lines 25-46 & Column 4, Lines 36-51 & Figure 2).
- A hybrid UPS power supply read on by components (106, 118, 108, & 116) (See Figure 3) coupled between an AC line (300) and a load (102) via energy supply circuit (120) and line (122) (See Figure 3) wherein said hybrid UPS is comprised of a regulator section (106 & 118) (See Figure 3).

Koenig fails to teach:

- Wherein the UPS is switchably coupled to the generating device (104).
- A power factor correction, boost DC bus voltage regulator

Van Sickel et al. (hereinafter referred to as Van Sickle) teach an uninterruptible power supply system in which a generator (244) is connected to an uninterruptible power supply, read on by the synchronous A.C machine & Flywheel (262), Rectifiers (150, 252) and inverter (152) in which the UPS is switchably coupled with an energy generating device, read on by the generator (28) (See Figure 1 & Column 5, Lines 40-71).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a switch, as taught by Van Sickle, into the power supply system of Koenig in which to isolate the generator (104) of Koenig from the rest of the circuit. The motivation would have been to provide a means to isolate the generator in the event that maintenance or a fault was present in the system.

Incorporating all arguments of the power supply system taught by Koenig, Koenig teaches the use of a regulator read on by components (106 & 118) but fails to teach a power factor correction, boost DC bus voltage regulator.

Symonds teaches an uninterruptible power supply comprising a power factor correcting, DC boost voltage regulator read on by components (12, 20 & 28) (See Abstract, Figure 1 & Column 3, Line 61 to Column 4, Line 49). Symonds teaches a rectifier (20) receiving an AC input which is converted to a DC voltage winch is then boosted by the boost converter (22) and power factor corrected by controller (40) (See Figure 2) which controls the boost converter (22).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the regulator taught by Symonds in place of the regulator (106) taught by Koenig. The motivation would have been to provide a means to adequately control the voltage which is outputted to the DC bus and reduce power loss by controlling the power factor.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Cavallari whose telephone number is (571)272-8541. The examiner can normally be reached on Monday-Friday 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571)272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BRIAN SIRCUS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

Daniel Cavallari

February 17, 2006